



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND  
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

SEPTEMBER 30, 2010

PTAS

CHRISTOPHER P. HARRIS  
TAROLLI, SUNDHEIM, COVELL & TUMMINO LLP  
1300 EAST NINTH STREET, SUITE 1700  
CLEVELAND, OHIO 44114



\*10360659.7A\*

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OCT 07 2010

TAROLLI, SUNDHEIM  
COVELL & TUMMINO LLP

### UNITED STATES PATENT AND TRADEMARK OFFICE NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 571-272-3350. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, MAIL STOP: ASSIGNMENT SERVICES BRANCH, P.O. BOX 1450, ALEXANDRIA, VA 22313.

RECORDATION DATE: 09/07/2010

REEL/FRAME: 025051/0504

NUMBER OF PAGES: 11

BRIEF: MERGER (SEE DOCUMENT FOR DETAILS).

DOCKET NUMBER: ESSEX TO NGMSC

ASSIGNOR:

ESSEX CORPORATION

DOC DATE: 12/18/2008

ASSIGNEE:

NORTHROP GRUMMAN SPACE & MISSIONS  
SYSTEMS CORP.

1840 CENTURY PARK EAST  
LOS ANGELES, CALIFORNIA 90067-2199

SERIAL NUMBER: 10100203

FILING DATE: 03/19/2002

PATENT NUMBER:

ISSUE DATE:

TITLE: METHOD AND APPARATUS FOR PRECISION WAVELENGTH STABILIZATION IN  
FIBER OPTIC COMMUNICATION SYSTEMS USING AN OPTICAL TAPPED DELAY LINE

SERIAL NUMBER: 07604255

FILING DATE: 10/29/1990

PATENT NUMBER: 5079555

ISSUE DATE: 01/07/1992

TITLE: SEQUENTIAL IMAGE SYNTHESIZER

|   |                         |
|---|-------------------------|
| SERIAL NUMBER: 07806697   | FILING DATE: 12/12/1991 |
| PATENT NUMBER: 5202776  | ISSUE DATE: 04/13/1993  |
| TITLE: TIME DELAY BEAM FORMATION  |                         |
| SERIAL NUMBER: 08032696   | FILING DATE: 03/17/1993 |
| PATENT NUMBER: 5384573  | ISSUE DATE: 01/24/1995  |
| TITLE: IMAGE SYNTHESIS USING TIME SEQUENTIAL HOLOGRAPHY   |                         |
| SERIAL NUMBER: 08387414   | FILING DATE: 02/13/1995 |
| PATENT NUMBER: 5623360  | ISSUE DATE: 04/22/1997  |
| TITLE: TIME DELAY BEAM FORMATION  |                         |
| SERIAL NUMBER: 09687029   | FILING DATE: 10/13/2000 |
| PATENT NUMBER: 6608721  | ISSUE DATE: 08/19/2003  |
| TITLE: OPTICAL TAPPED DELAY LINE  |                         |
| SERIAL NUMBER: 10012049   | FILING DATE: 12/11/2001 |
| PATENT NUMBER: 6735346  | ISSUE DATE: 05/11/2004  |
| TITLE: HD FOURIER TRANSFORMS FOR IRREGULARLY SAMPLED DATA                                       |                         |
| SERIAL NUMBER: 10833342   | FILING DATE: 04/28/2004 |
| PATENT NUMBER: 7042386  | ISSUE DATE: 05/09/2006  |
| TITLE: SUB-APERTURE SIDELOBE AND ALIAS MITIGATION TECHNIQUES                                    |                         |
| SERIAL NUMBER: 10051334   | FILING DATE: 01/22/2002 |
| PATENT NUMBER: 7062174  | ISSUE DATE: 06/13/2006  |
| TITLE: WAVELENGTH DIVISION MULTIPLEXING ADD-DROP MULTIPLEXER USING AN OPTICAL TAPPED DELAY LINE |                         |
| SERIAL NUMBER: 09766151   | FILING DATE: 01/19/2001 |
| PATENT NUMBER: 7130292  | ISSUE DATE: 10/31/2006  |
| TITLE: OPTICAL PROCESSOR ENHANCED RECEIVER ARCHITECTURE (OPERA)                                 |                         |
| SERIAL NUMBER: 10199495   | FILING DATE: 07/22/2002 |
| PATENT NUMBER: 7509048  | ISSUE DATE: 03/24/2009  |
| TITLE: METHOD AND APPARATUS FOR OPTICAL SIGNAL PROCESSING USING AN OPTICAL TAPPED DELAY LINE    |                         |
| SERIAL NUMBER: 10715824   | FILING DATE: 11/19/2003 |
| PATENT NUMBER: 7720226  | ISSUE DATE: 05/18/2010  |
| TITLE: PRIVATE AND SECURE OPTICAL COMMUNICATION SYSTEM USING AN OPTICAL TAPPED DELAY LINE       |                         |
| SERIAL NUMBER: 10051229   | FILING DATE: 01/22/2002 |
| PATENT NUMBER: 7756424  | ISSUE DATE: 07/13/2010  |
| TITLE: OPTICAL CDMA COMMUNICATIONS SYSTEM USING OTDC DEVICE                                     |                         |
| SERIAL NUMBER: 11346566   | FILING DATE: 02/03/2006 |
| PATENT NUMBER: 7768709  | ISSUE DATE: 08/03/2010  |
| TITLE: LONG TIME APERTURE OPTICAL TAPPED DELAY LINE   |                         |

SHARON LATIMER, EXAMINER  
ASSIGNMENT SERVICES BRANCH  
PUBLIC RECORDS DIVISION

## PATENT ASSIGNMENT

09-10-2010

Electronic Version v1.1  
Stylesheet Version v1.1



103606597

|                       |                |
|-----------------------|----------------|
| SUBMISSION TYPE:      | NEW ASSIGNMENT |
| NATURE OF CONVEYANCE: | MERGER         |
| EFFECTIVE DATE:       | 12/18/2008     |

## CONVEYING PARTY DATA

| Name              | Execution Date |
|-------------------|----------------|
| Essex Corporation | 12/18/2008     |

## RECEIVING PARTY DATA

|                 |   |
|-----------------|---|
| Name:           | Northrop Grumman Space & Missions Systems Corp. |
| Street Address: | 1840 Century Park East                          |
| City:           | Los Angeles                                     |
| State/Country:  | CALIFORNIA                                      |
| Postal Code:    | 90067-2199                                      |

## PROPERTY NUMBERS Total: 14

| Property Type       | Number   |
|---------------------|----------|
| Patent Number:      | 5079555  |
| Patent Number:      | 5202776  |
| Patent Number:      | 5384573  |
| Patent Number:      | 5623360  |
| Patent Number:      | 6608721  |
| Patent Number:      | 6735346  |
| Patent Number:      | 7042366  |
| Patent Number:      | 7062174  |
| Patent Number:      | 7130292  |
| Patent Number:      | 7509048  |
| Patent Number:      | 7720226  |
| Patent Number:      | 7756424  |
| Patent Number:      | 7768709  |
| Application Number: | 10100203 |

OP \$560.00 5079555

**CORRESPONDENCE DATA**

Fax Number: (216)621-4072

*Correspondence will be sent via US Mail when the fax attempt is unsuccessful.*

Phone: 2166212234

Email: ipringle@tarolli.com

Correspondent Name: Christopher P. Harris

Address Line 1: Tarolli, Sundheim, Covell &amp; Tummino LLP

Address Line 2: 1300 East Ninth Street, Suite 1700

Address Line 4: Cleveland, OHIO 44114

|                         |                 |
|-------------------------|-----------------|
| ATTORNEY DOCKET NUMBER: | ESSEX TO NGSMSC |
|-------------------------|-----------------|

|                    |                       |
|--------------------|-----------------------|
| NAME OF SUBMITTER: | Christopher P. Harris |
|--------------------|-----------------------|

Total Attachments: 2

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**PATENT ASSIGNMENT**

Electronic Version v1.1  
Stylesheet Version v1.1

|                       |                |
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| Essex Corporation | 12/18/2008     |

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| Name:           | Northrop Grumman Space & Missions Systems Corp. |
| Street Address: | 1840 Century Park East                          |
| City:           | Los Angeles                                     |
| State/Country:  | CALIFORNIA                                      |
| Postal Code:    | 90067-2199                                      |

**PROPERTY NUMBERS Total: 14**

| Property Type  | Number  |
|----------------|---------|
| Patent Number: | 5079655 |
| Patent Number: | 5202776 |
| Patent Number: | 5384573 |
| Patent Number: | 5623360 |
| Patent Number: | 6608721 |
| Patent Number: | 6735346 |
| Patent Number: | 7042386 |
| Patent Number: | 7062174 |
| Patent Number: | 7130292 |
| Patent Number: | 7509048 |
|                |         |

|                     |          |
|---------------------|----------|
| Patent Number:      | 7720226  |
| Patent Number:      | 7756424  |
| Patent Number:      | 7768709  |
| Application Number: | 10100203 |

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Address Line 2: 1300 East Ninth Street, Suite 1700

Address Line 4: Cleveland, OHIO 44114

|                         |                 |
|-------------------------|-----------------|
| ATTORNEY DOCKET NUMBER: | ESSEX TO NGSMSC |
|-------------------------|-----------------|

|                    |                       |
|--------------------|-----------------------|
| NAME OF SUBMITTER: | Christopher P. Harris |
|--------------------|-----------------------|

|            |                        |
|------------|------------------------|
| Signature: | /Christopher P Harris/ |
|------------|------------------------|

|       |            |
|-------|------------|
| Date: | 09/07/2010 |
|-------|------------|

Total Attachments: 2

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**RECEIPT INFORMATION**

EPAS ID: PAT1307747

Receipt Date: 09/07/2010

Fee Amount: \$560

**RECORDATION FORM COVER SHEET  
PATENTS ONLY**

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

**1. Name of conveying party(ies)**

Essex Corporation

Additional name(s) of conveying party(ies) attached?  Yes  No

**3. Nature of conveyance/Execution Date(s):**

Execution Date(s) 12/18/2008

- Assignment       Merger  
 Security Agreement       Change of Name  
 Joint Research Agreement  
 Government Interest Assignment  
 Executive Order 9424, Confirmatory License  
 Other \_\_\_\_\_

**4. Application or patent number(s):**

A. Patent Application No.(s)

SEE ATTACHED

This document is being filed together with a new application.

B. Patent No.(s)

Additional numbers attached?  Yes  No

**5. Name and address to whom correspondence concerning document should be mailed:**

Name: Christopher P. Harris

Internal Address: Tarolli, Sundheim, Covell & Tummino LLP

Street Address: 1300 East Ninth Street, Suite 1700

City: Cleveland

State: OH Zip: 44114

Phone Number: 216.621.2234 Ext. 104

Fax Number: 216.621.4072

Email Address: charris@tarolli.com

**6. Total number of applications and patents involved:** 14

**7. Total fee (37 CFR 1.21(h) & 3.41) \$560.00**

- Authorized to be charged to deposit account  
 Enclosed  
 None required (government interest not affecting title)

**8. Payment Information**

Deposit Account Number 20-0090

Authorized User Name Christopher P. Harris

**9. Signature:**

/Christopher P. Harris/

Signature

7 September 2010

Date

Christopher P. Harris  
Name of Person Signing

Total number of pages including cover sheet, attachments, and documents:

10

Applications:  
10100203

Patents:

5079555

5202776

5384573

5623360

6608721

6735346

7042386

7062174

7130292

7509048

7720226

7756424

7768709



| DATE:      | DOCUMENT ID  | DESCRIPTION           | FILED  | EXPOD  | PENALTY | CERT | COPY  |
|------------|--------------|-----------------------|--------|--------|---------|------|-------|
| 12/23/2008 | 200835800484 | MERGER/DOMESTIC (MER) | 125.00 | 300.00 | .00     | .00  | 15.00 |

**Receipt**

This is not a bill. Please do not remit payment.

CT CORPORATION SYSTEM  
4400 EASTON COMMONS WAY, SUITE 125  
ATTN: TIMOTHY ROBERSON  
COLUMBUS, OH 43219

**STATE OF OHIO**  
**CERTIFICATE**  
Ohio Secretary of State, Jennifer Brunner

40406

It is hereby certified that the Secretary of State of Ohio has custody of the business records for

**NORTHROP GRUMMAN SPACE & MISSION SYSTEMS CORP.**

and, that said business records show the filing and recording of:

Document(s)  
MERGER/DOMESTIC

Document No(s):  
200835800484



United States of America  
State of Ohio  
Office of the Secretary of State

Witness my hand and the seal of  
the Secretary of State at Columbus,  
Ohio this 1st day of January, A.D.  
2009.

Ohio Secretary of State



Prescribed by:

The Ohio Secretary of State  
Central Office: (614) 466-3910

Toll Free: 1-877-SOS-FILE (1-877-767-3453)

www.sos.state.oh.us

e-mail: busenv@sos.state.oh.us

|  |  |
|--|--|
| Expedite this Form:  |  |
| <input checked="" type="checkbox"/> Expedite P.O. Box 1380 Columbus OH 43216 |  |
| -- Payee or additional fee info --   |  |
| <input type="checkbox"/> Non Expedite P.O. Box 1329 Columbus OH 43216        |  |

## CERTIFICATE OF MERGER

Filing Fee \$125.00  
(154-MER)

In accordance with the requirements of Ohio law, the undersigned corporations, banks, savings banks, savings and loan, limited liability companies, limited partnerships and/or partnerships with limited liability, desiring to effect a merger, set forth the following facts:

## 1. SURVIVING ENTITY

A. The name of the entity surviving the merger is: NORTHROP GRUMMAN SPACE & MISSION SYSTEMS CORP.

B. Name Change: As a result of this merger, the name of the surviving entity has been changed to the following:

(Complete only if name of surviving entity is changing through the merger)

C. The surviving entity is a: (Please check the appropriate box and fill in the appropriate blanks)

- Domestic (Ohio) For-Profit Corporation, charter number 40406
- Domestic (Ohio) Nonprofit Corporation, charter number \_\_\_\_\_
- Foreign (Non-Ohio) For-Profit Corporation incorporated under the laws of the state/country of \_\_\_\_\_ and licensed to transact business in the state of Ohio under license number \_\_\_\_\_
- Foreign (Non-Ohio) For-Profit Corporation incorporated under the laws of the state/country of \_\_\_\_\_ and NOT licensed to transact business in the state of Ohio \_\_\_\_\_
- Foreign (Non-Ohio) Nonprofit Corporation under the laws of the state/country of \_\_\_\_\_ and licensed to transact business in the state of Ohio under license number \_\_\_\_\_
- Foreign (Non-Ohio) Nonprofit Corporation under the laws of the state/country of \_\_\_\_\_ and NOT licensed to transact business in the state of Ohio \_\_\_\_\_
- Domestic (Ohio) For-Profit Limited Liability Company, with registration number \_\_\_\_\_
- Domestic (Ohio) Nonprofit Limited Liability Company, with registration number \_\_\_\_\_
- Foreign (Non-Ohio) For-Profit Limited Liability Company organized under the laws of the state/country of \_\_\_\_\_ and registered to do business in the state of Ohio under registration number \_\_\_\_\_
- Foreign (Non-Ohio) For-Profit Limited Liability Company organized under the laws of the state/country of \_\_\_\_\_ and NOT registered to do business in the state of Ohio \_\_\_\_\_
- Foreign (Non-Ohio) Nonprofit Limited Liability Company organized under the laws of the state/country of \_\_\_\_\_ and registered to do business in the state of Ohio under registration number \_\_\_\_\_
- Foreign (Non-Ohio) Nonprofit Limited Liability Company organized under the laws of the state/country of \_\_\_\_\_ and NOT registered to do business in the State of Ohio \_\_\_\_\_
- Domestic (Ohio) Limited Partnership, with registration number \_\_\_\_\_

- Foreign (Non-Ohio) Limited Partnership organized under the laws of the state/country of \_\_\_\_\_ and registered to do business in the state of Ohio under registration number \_\_\_\_\_
- Foreign (Non-Ohio) Limited Partnership organized under the laws of the state/country of \_\_\_\_\_ and NOT registered to do business in the state of Ohio \_\_\_\_\_
- Domestic (Ohio) Partnership Having Limited Liability, with the registration number \_\_\_\_\_
- Foreign (Non-Ohio) Partnership Having Limited Liability organized under the laws of the state/country of \_\_\_\_\_ and registered to do business in the state of Ohio under registration number \_\_\_\_\_
- Foreign (Non-Ohio) Partnership Having Limited Liability organized under the laws of the state/country of \_\_\_\_\_ and NOT registered to do business in the state of Ohio \_\_\_\_\_
- General Partnership NOT registered with the state of Ohio \_\_\_\_\_

**B. MERGING ENTITY**

The name, charter/license/registration number, type of entity, state or country of incorporation or organization, respectively, of which the entities merging out of existence are as follows. (If this is insufficient space to reflect all merging entities, please attach a separate sheet listing the merging entities).

| Name/Charter, License or Registration Number | State/Country of Organization | Type of Entity |
|--|-------------------------------|----------------|
| ESSEX CORPORATION                            | VIRGINIA                      | CORPORATION    |
| _____  | _____                         | _____          |
| _____  | _____                         | _____          |
| _____  | _____                         | _____          |

**III. MERGER AGREEMENT ON FILE**

The name and mailing address of the person or entity from whom/which eligible persons may obtain a copy of the agreement of merger upon written request:

|   |                                   |            |
|---|-----------------------------------|------------|
| James Nelson/Northrop Grumman Corporation | 1840 Century Park East            |            |
| Name                                      | Street Address / P.O. Box Address |            |
| Los Angeles                               | CA                                | 90067-2199 |
| City                                      | State                             | Zip Code   |

**IV. EFFECTIVE DATE OF MERGER at 12:01 A.M.**

This merger is to be effective on January 1, 2009. (If a date is specified, the date must be a date on or after the date of filing; the effective date of the merger cannot be earlier than the date of filing. If no date is specified, the date of filing will be the effective date of the merger).

**V. MERGER AUTHORIZED**

Each constituent entity has complied with all of the laws under which it exists and the laws permit the merger. The agreement of merger is authorized on behalf of each constituent entity and that each person who signs the certificate on behalf of each entity is authorized to do so.

**VI. STATUTORY AGENT**

If the surviving entity is a foreign entity NOT licensed to transact business in this state, the name and address of statutory agent upon whom any process, notice or demand may be served is:

Name \_\_\_\_\_ Mailing Address \_\_\_\_\_  
City \_\_\_\_\_, Ohio \_\_\_\_\_ Zip Code \_\_\_\_\_

If the agent is an individual and using a P.O. Box, check this box to certify the agent is a resident of the state of Ohio.

**VII. STATEMENT OF MERGER**

Upon filing, or upon such later date as specified herein, the merging entity/entities listed herein shall merge into the listed surviving entity.

**VIII. AMENDMENTS**

In the case of a merger into a domestic corporation, limited liability company, or limited partnership, any amendments to the articles of incorporation, articles of organization, or certificate of limited partnership of the surviving domestic entity shall be filed with the certificate of merger.

Amendments are attached

No Amendments

**IX. REQUIREMENTS OF CORPORATIONS MERGING OUT OF EXISTENCE**

If a domestic or foreign corporation licensed to transact business in this state is a constituent entity and the surviving or new entity resulting from the merger is not a domestic or foreign corporation that is to be licensed to transact business in this state, the certificate of merger or consolidation shall be accompanied by the affidavits, receipts, certificates, or other evidence required by division (G) of section 1702.47 of the Revised Code, with respect to each domestic corporation, and by the affidavits, receipts, certificates, or other evidence required by division (C) or (D) of section 1703.17 of the Revised Code, with respect to each foreign constituent corporation licensed to transact business in this state.

**X. QUALIFICATION OR LICENSURE OF FOREIGN SURVIVING ENTITY**

A. The listed surviving foreign entity desires to transact business in Ohio as a foreign corporation, bank, savings bank, savings and loan, limited liability company, limited partnership, or partnership having limited liability, and hereby appoints the following as its statutory agent upon whom process, notice or demand against the entity may be served in the state of Ohio. The name and complete address of the statutory agent is:

Name \_\_\_\_\_ Mailing Address \_\_\_\_\_  
City \_\_\_\_\_, Ohio \_\_\_\_\_ Zip Code \_\_\_\_\_

If the agent is an individual and using a P.O. Box, check this box to certify the agent is a resident of the state of Ohio.

The subject surviving foreign corporation, bank, savings bank, savings and loan, limited liability company, limited partnership, or partnership having limited liability irrevocably consents to service of process on the statutory agent listed above as long as the authority of the agent continues, and to service of process upon the Secretary of State of Ohio if the agent cannot be found. If the corporation, bank, savings bank, savings and loan, limited liability company, limited partnership, or partnership having limited liability fails to designate another agent when required to do so, or if the foreign corporation's, bank's, savings bank's, savings and loan's, limited liability company's, limited partnership's or partnership having limited liability's license or registration to do business in Ohio expires or is canceled,

B. The qualifying entity also states as follows: (Complete only if applicable)

1. Foreign Notice Under Section 1703.031

(If the qualifying entity is a foreign bank, savings bank, or savings and loan, then the following information must be completed.)

(a) The name of the Foreign Nationally/Federally chartered bank, savings bank, or savings and loan association is:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(c) The location of the main office (non-Ohio) shall be:

Street Address / P.O. Box Address

City \_\_\_\_\_

County \_\_\_\_\_

State \_\_\_\_\_

Zip Code \_\_\_\_\_

(d) The principal office location in the state of Ohio shall be:

Street Address / P.O. Box Address

City \_\_\_\_\_

County \_\_\_\_\_

State \_\_\_\_\_

Zip Code \_\_\_\_\_

(If there will not be an office in the state of Ohio, please list none)

(e) The corporation will exercise the following purpose(s) in the state of Ohio:

(Please provide a brief summary of the business to be conducted; a general clause is not sufficient)

\_\_\_\_\_

\_\_\_\_\_

2. Foreign Qualifying Limited Liability Company under section 1705.54  
(If the qualifying entity is a foreign limited liability company, the following information must be completed.)

(a) The name of the For-Profit or Nonprofit limited liability company in its state of organization/registration is:

\_\_\_\_\_

(b) The name under which the limited liability company desires to transact business in Ohio (if different from its home state name) is:

\_\_\_\_\_

(c) The limited liability company was organized or registered on \_\_\_\_\_  
under the laws of the state/country of \_\_\_\_\_

(d) The address to which interested persons may direct requests for copies of the articles of organization, operating agreement, bylaws, or other charter documents of the company is:

Street Address/ P.O. Box Address

City \_\_\_\_\_

State \_\_\_\_\_

Zip Code \_\_\_\_\_

3. Foreign Qualifying Limited Partnership under section 1792.48  
(If the qualifying entity is a foreign limited partnership, the following information must be completed.)

(a) The name of the limited partnership is:

(b) The limited partnership was formed on \_\_\_\_\_

Under the laws of the state/country of: \_\_\_\_\_

(c) The address of the office of the limited partnership in its state/country of organization is:

Street Address / P.O. Box Address \_\_\_\_\_

City \_\_\_\_\_ County \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

(d) The limited partnership's principal office address is:

Street Address / P.O. Box Address \_\_\_\_\_

City \_\_\_\_\_ County \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

(e) The names and business or residence addresses of the general partners of the partnership are as follows:

Name \_\_\_\_\_ Street Address / P.O. Box Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(If insufficient space to cover this form, please attach a separate sheet listing the general partners and their respective addresses)

(f) The address of the office where a list of the names and business or residence addresses of the limited partners and their respective capital contributions is to be maintained is:

Street Address / P.O. Box Address \_\_\_\_\_

City \_\_\_\_\_ County \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

The limited partnership hereby certifies that it shall maintain said records until the registration of the limited partnership in Ohio is canceled or withdrawn.

4. Foreign Qualifying Partnership Having Limited Liability Under Section 1775.64  
(If the qualifying entity is a foreign partnership having limited liability, the following information must be completed.)

(a) The name of the partnership shall be:

\_\_\_\_\_

(b) The partnership was formed under the laws of the state/country of: \_\_\_\_\_

(c) Please complete the following appropriate section (either item c(1) or c(2)): \_\_\_\_\_

(1.) The address of the partnership's principal office in Ohio is:

Street Address / P.O. Box Address \_\_\_\_\_

City \_\_\_\_\_, Ohio \_\_\_\_\_ Zip Code \_\_\_\_\_

*(If the partnership does not have a principal office in Ohio, then Item c(2) must be completed)*

(2.) The address of the partnership's principal office (Non-Ohio):

Street Address / P.O. Box Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

(d) The business which the partnership engages in is:

\_\_\_\_\_

\_\_\_\_\_

**(Proceed to page 7 for signatures of authorized officers, partners and representatives.)**

This undersigned constituent entities have caused this certificate of merger to be signed by its duly authorized officers, partners and representatives on the date(s) stated below.

**ESSEX CORPORATION**

Exact name of entity

By: Kathleen M. Salmas

Its: Secretary

Date: December 18, 2008

Exact name of entity

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**NORTHROP GRUMMAN SPACE &  
MISSION SYSTEMS CORP.**

Exact name of entity

By: Kathleen M. Salmas

Its: Secretary

Date: December 18, 2008

Exact name of entity

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

Exact name of entity

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

Exact name of entity

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

Exact Name of entity

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

Exact Name of entity

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

Exact Name of entity

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

Exact Name of entity

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

An authorized representative of each constituent corporation, partnership, or entity must sign the merger certificate DRC 1701.81(A), 1702.43 (A), 1705.38(A), 1775.47(A), 1782.433(A)

# *Delaware*

PAGE 1

*The First State*

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF OWNERSHIP, WHICH MERGES:

"NORTHROP GRUMMAN SPACE & MISSION SYSTEMS CORP.", AN OHIO CORPORATION,

WITH AND INTO "NORTHROP GRUMMAN SYSTEMS CORPORATION" UNDER THE NAME OF "NORTHROP GRUMMAN SYSTEMS CORPORATION", A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF THE STATE OF DELAWARE, AS RECEIVED AND FILED IN THIS OFFICE THE FOURTEENTH DAY OF DECEMBER, A.D. 2009, AT 7:44 O'CLOCK P.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF OWNERSHIP IS THE THIRTY-FIRST DAY OF DECEMBER, A.D. 2009, AT 11:59 O'CLOCK P.M.

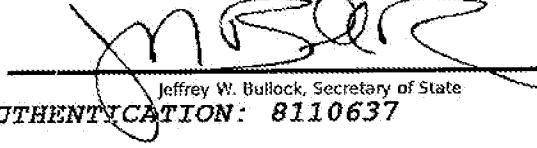
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Jeffrey W. Bullock, Secretary of State  
AUTHENTICATION: 8110637



DATE: 07-13-10